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*A Course of Modern Analysis. An introduction to the general theory of infinite processes and of analytic functions; with an account of the principal transcendental functions.* By E. T. WHITTAKER and G. N. WATSON. Third edition. Cambridge at the University Press, 1920. Royal 8vo. 4 + 608 pages. Price 40 shillings.

The first edition of this work was by Whittaker alone in 1902 (16 + 378 pp.). The second edition in collaboration with Watson appeared in 1915 (560 pp.). "Advantage has been taken of the preparation of the third edition . . . to add a chapter on Ellipsoidal Harmonics and Lamé's Equation, and to rearrange the chapter on Trigonometrical Series so that the parts which are used in applied mathematics come at the beginning of the chapter. A number of minor errors have been corrected and we have endeavored to make the references more complete" (Preface).

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*Principles and Methods of Teaching Arithmetic.* By J. R. OVERMAN. Chicago, Lyons and Carnahan, 1920. 6 + 350 pages. Price $1.60.

Contents: Part I, Introduction—Chapter I: The ends to be accomplished through the teaching of arithmetic, 1–9; II: The social ends in arithmetic, 10–18; III: The course of study, 19–45; IV: Types of teaching in arithmetic, 46–48. Part II, The Presentation of New Material—I: Methods of presenting new material, 49–53; II: The inductive development lesson, 54–66; III: The inductive development lesson—objective work, 67–73; IV: The deductive lesson in arithmetic, 74–88; V: The development of new ideas, 89–103; VI: The development of facts and principles, 104–120; VII: The development of rules and processes, 121–135. Part III, Fixing and Mechanizing, Facts, Principles, Rules and Processes—I: Methods of fixing—laws of habit formation, 136–141; II: Methods of securing and keeping attention in drill, 142–149; III: How to prevent the occurrence of exceptions to the desired habits, 150–160; IV: Accuracy and speed in the fundamentals, 161–174; V: Miscellaneous points on drill, 175–179; VI: Games, 180–196; VII: Measuring the mastery of the fundamental facts and processes gained through drill, 197–231. Part IV, Developing the Ability to Apply the Fundamentals of Arithmetic to Concrete Situations —I: The purpose of the problem work in arithmetic, 232–239; II: The nature and sources of problems, 240–255; III: Teaching pupils to solve problems, 256–274; IV: Form of written solutions—analysis, 275–283; V: Measuring the ability to use arithmetic, 284–299; Appendix, 300–333; Index, 335–340.

## NOTES.

*Plane Geometry* by H. E. HAWKES, W. A. LUBY, and F. C. TOUTON (Boston, Ginn. 8 + 305 pages; price $1.32) appeared in December, 1920.

The Cambridge University Press has published the concluding volume of Rayleigh's *Scientific Papers,* volume 6, 1911-1919.—From the Clarendon Press has come a fourth volume by HAROLD HILTON; it is entitled: *Plane Algebraic*